

**AMENDMENTS TO THE SPECIFICATION:**

Please add the following heading on page 1 after the title as follows:

**FIELD OF THE INVENTION**

Please replace paragraph [0001] on page 1 with the following amended paragraph:

The invention concerns a reference leakage device ~~having the characteristics of patent claim~~ for a leak sniffer apparatus.

Please add the following title on page 1 before paragraph [0002] as follows:

**BACKGROUND OF THE INVENTION**

Please replace paragraph [0002] on page 1 with the following amended paragraph:

Many systems and products in industry and research are subject to high requirements regarding their leaktightness. ~~It depends~~ These requirements depend on the type of leak, the leak rate or size of the leak which leak detection method is applied, respectively, which leak detection instrument is employed.

Please replace paragraph [0003] on page 1 with the following amended paragraph:

In the instance of test samples or subassemblies manufactured in the refrigerating industry, automotive industry or other industries, the method of sniffer leak detection is frequently employed. This method requires that the test sample or subassembly contains a test gas, preferably at an overpressure. Frequently, helium is employed as the test gas which before sealing off is introduced into the hollow spaces which are to be analysed for the presence of leaks. It is also known to employ gases present in any case within the test samples or subassemblies as the test gas, for example, SF6 or halogen gases in the refrigerating industry.

Please replace paragraph [0004] on page 1 with the following amended paragraph:

The test sample which is to be ~~analysed~~ analyzed for the presence of leaks is scanned with the aid of the suction intake (tip) of a sniffer gun, which takes in test gas flowing out of a possibly present leak and which supplies said test gas to a test gas detector. The test gas detector may be accommodated together with other

components in an instrument to which the sniffer gun is connected, among other things, by means of a hose. Provided the detector is sufficiently small (for example, an infrared gas analyser), it may also be accommodated in the sniffer gun itself, thereby significantly reducing the response time.

Please add the following title on page 2 before paragraph [0008] as follows:

### **SUMMARY OF THE INVENTION**

Please replace paragraph [0009] on page 2 with the following amended paragraph:

This task is solved by the present invention ~~through the characterising features of the patent claims~~. Through these measures it is achieved, by only locating the sniffer tip in the vicinity of the constriction of the reference leakage device, that the calibration of the leak detection instrument separately from the reference leakage device can be performed

Please add the following title on page 2 before paragraph [0010] as follows:

### **BRIEF DESCRIPTION OF THE DRAWINGS**

Please replace paragraph [0010] on page 2 with the following amended paragraph:

Further advantages and details of the present invention shall be explained with reference to the examples of embodiments depicted schematically in the drawing figures ~~1 to 3. Depicted are in which:~~

Please replace paragraph [0011] on page 3 with the following amended paragraph:

[[ -]] ~~drawing figure 1,~~ Fig. 1 depicts a sniffer leak detection instrument with components built in therein,

Please replace paragraph [0012] on page 3 with the following amended paragraph:

[[ -]] ~~drawing figure 2,~~ Fig. 2 depicts a sectional view through an example of an embodiment for a separate reference leakage device in accordance with the present invention and

Please replace paragraph [0013] on page 3 with the following amended paragraph:

~~[[ -]] drawing figure 3, a flowchart~~ Figs. 3(a) and 3(b) depict flowcharts for the implementation of a calibration process according to the known art (Fig. 3(a)) and with the aid of a reference leakage device (Fig. 3(b)) in accordance with the present invention.

Please add the following title on page 3 before paragraph [0014] as follows:

#### **DETAILED DESCRIPTION**

Please replace paragraph [0014] on page 3 with the following amended paragraph:

The leak detection instrument 1 depicted in ~~drawing figure 1~~ Fig. 1 is equipped with a housing 2, in which there are located the instrument components. Presented by way of blocks are, for example, a vacuum pump 3, a power supply unit 4, a gas detector 5, and a control unit 6. Located exterior with respect to the housing is the sniffer gun 7 with its intake point (tip) 8. Said sniffer gun is connected through a hose 9 to the gas detector 5. In the instance of the gas detector 5 being accommodated within the sniffer gun 7, said sniffer gun is connected through signal lines to the control unit. All instrument components are accommodated within housing 2. The housing 2 itself is equipped in the area of the bottom section 11 and in the upper section with cooling air entry openings 12, respectively louvres 13. Since at least some of the instrument components generate heat, a cooling air flow due to the thermal conditions is effected. Should this flow be inadequate, an additional fan may be provided supporting the cooling air flow.

Please replace paragraph [0015] on page 3 with the following amended paragraph:

~~Drawing figure 2~~ Fig. 2 depicts an example of an embodiment for a reference leakage device 14 in accordance with the present invention. ~~It~~ The device is equipped with a housing 15, in which the actual reference leakage device 20 is removably accommodated – in a manner not specifically detailed. The actual reference leakage device 20 exhibits a pipe connection 21 opening out through the housing 15 to the outside. The pipe connection 21 forms a commonly constantly open connection between the constriction, details of which are described below, of

the actual reference leakage device 20 and an aperture 22 suited for introducing the sniffer tip 8. This arrangement allows the leak detection instrument 1 to be calibrated at any time.

Please replace [0019] on page 4, with the following amended paragraph:

In the instance of the example of an embodiment depicted in ~~drawing figure 2~~ Fig. 2, the pressure vessel 31 is equipped with a ball valve 38 being located in one of its face sides. The pressure vessel 31 is inserted into the housing 32 such that the valve 38 faces in the cap 35. The cap 35 is equipped with a pin 39 assigned to the valve 38, the length of said pin being so selected that it opens the valve 38 when the cap 35 is completely screwed on. If a pressure vessel without valve 38 is employed, a spike is provided instead of the pin 39, said a spike providing an opening in the pressure vessel 31 upon closing the cap 35. After closing the cap, either the valve 38 is open, or the opening provided by the spike is present so that test gas flows into the housing 32. Decisive for the temperature burden is then no longer pressure vessel 31, but the housing 32 instead.

Please replace [0025] on page 6, with the following amended paragraph:

Expediently the actual reference leakage device 20 is equipped, besides the temperature sensor 51, also with an EEPROM. In ~~drawing figure 2~~ Fig. 2, the EEPROM is depicted schematically and designated as 52. If in the EEPROM production date, filling quantity as well as leak rate have been saved, it is thereby possible to provide an estimate as to the point of time when the reservoir will have emptied itself, and when, for this reason the actual reference leakage device 20 needs to be exchanged. If the EEPROM 52 is also linked to the control unit 6, this point of time may be indicated on the display of the leak detector.

Please replace [0026] on page 6, with the following amended paragraph:

~~Drawing figure 3 depicts~~ Figs. 3(a) and 3(b) depict flow charts for the

implementation of the calibration process employing instruments according to the state-of-the-art (~~drawing figure 3a~~) Fig. 3(a) and with the aid of a reference leakage device in accordance with the present invention (~~drawing figure 3b~~) Fig. 3(b). From the comparison of the flow charts, the simplification of the calibration process due to the present invention is apparent.

Please delete the title in toto on page 7.

Please replace the heading on page 7 with the following rewritten heading as follows:

**We Claim:**

Please delete the footnote in toto on page 7.

Please delete the footnotes in toto on page 8.

Please delete the title in toto on page 10.

Please delete the Abstract on page 10 in toto and replace with the following new Abstract:

**Abstract**

A reference leakage device for a leak sniffer detector that is equipped with a sniffing tip and a control unit. The reference leakage device includes a gas reservoir and a constriction wherefrom there is released a specific amount of test gas, at least during calibration. A sensor is located in the constriction for detecting the approach of the sniffing tip wherein the device further is capable of transmitting signals to control unit of the leak detector.

Please delete the footnote in toto on page 10.